

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 October 2000 (05.10.2000)

PCT

(10) International Publication Number
WO 00/58360 A3

(51) International Patent Classification⁷: C07K 14/575,
A61K 38/22, A61P 5/48

(21) International Application Number: PCT/GB00/01089

(22) International Filing Date: 29 March 2000 (29.03.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
9907216.7 29 March 1999 (29.03.1999) GB
9917565.5 27 July 1999 (27.07.1999) GB

(71) Applicant (for all designated States except US): UNIVER-
SITY OF ULSTER [GB/GB]; Coleraine, Co Londonderry
BT52 1SA (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): O'HARTE, Fin-
barr, Paul, Mary [GB/GB]; 2 Cambourne Park, Finvoy
Road, Ballymoney, Co Antrim BT53 7PG (GB). FLATT,
Peter, Raymond [GB/GB]; 18 Ballymacrea Road,
Portrush, Co Antrim BT56 8NR (GB).

(74) Agent: MURGITROYD & COMPANY; 373 Scotland
Street, Glasgow G5 8QA (GB).

(81) Designated States (national): AE, AL, AM, AT, AU, AZ,
BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,
DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL,
IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,
LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT,
RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,
UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent
(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent
(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,
MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

- With international search report.
- Before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments.

(88) Date of publication of the international search report:
25 January 2001

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.



WO 00/58360 A3

(54) Title: ANALOGS OF GASTRIC INHIBITORY PEPTIDE AND THEIR USE FOR TREATMENT OF DIABETES

(57) Abstract: The present invention provides peptides which stimulate the release of insulin. The peptides, based on GIP 1-42 include substitutions and/or modifications which enhance and influence secretion and/or have enhanced resistance to degradation. The invention also provides a process of N terminally modifying GIP and the use of the peptide analogues for treatment of diabetes.

INTERNATIONAL SEARCH REPORT

Internat'l Application No
PCT/GB 00/01089

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/575 A61K38/22 A61P5/48

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

CHEM ABS Data, EPO-Internal, WPI Data, PAJ, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 196 16 486 A (HANS KNOELL INST FUER NATURSTO) 30 October 1997 (1997-10-30) claims; examples ---	1,7-11
A	EP 0 869 135 A (LILLY CO ELI) 7 October 1998 (1998-10-07) page 3, line 2 - line 49; claims; examples --- -/--	1,7-11

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

1 November 2000

Date of mailing of the international search report

15/11/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Fuhr, C

INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 00/01089

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	<p>CHEMICAL ABSTRACTS, vol. 131, no. 1, 5 July 1999 (1999-07-05) Columbus, Ohio, US; abstract no. 944, O'HARTE, FINBARR P. M. ET AL: "NH₂-terminally modified gastric inhibitory polypeptide exhibits amino- peptidase resistance and enhanced antihyperglycemic activity" XP002151675 abstract & DIABETES (4-1999), 48(4), 758-765 , 1999,</p> <p>-----</p>	1,7-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 00/01089

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 19616486 A	30-10-1997	AU 721477 B	06-07-2000
		AU 3023397 A	19-11-1997
		CA 2252576 A	06-11-1997
		CN 1216468 A	12-05-1999
		WO 9740832 A	06-11-1997
		EP 0896538 A	17-02-1999
		NZ 332707 A	28-10-1999
EP 0869135 A	07-10-1998	US 5981488 A	09-11-1999